

HW 8

Honors Physics

1. A car (mass = 1400 kg) accelerates at 4.23 m/s^2 . If the drag force on the car is 30 N and the applied force is 1000 N, what is the coefficient of friction between the tires and the road?
2. A box (mass = 45 kg) is pulled at an angle of 33° with a force of 60 N. If the coefficient of friction between the box and floor is 0.425, what is the acceleration of the box?
3. A block of mass 9.89 kg is on a horizontal surface and is attached to a block of mass 5.88 kg that is hanging by means of a rope passed over a pulley. Find the acceleration of the mass on the table.
4. A block of mass 15 kg is on a horizontal surface and is attached to a block of mass 2 kg that is hanging by means of a rope passed over a pulley. Find the acceleration of the mass on the table.